

REMARKS

Claim 1 has been amended to incorporate the recitations of claims 3 and 10, and claims 3 and 10 have been canceled accordingly. Claim 12 has been amended so that it depends upon claim 11. Claim 13 has been amended to make editorial changes. Claims 14-17 have been added reciting particular compounds for component (b), as used in, e.g., Examples 1 and 2 in the application.

Entry of the above amendments is respectfully requested.

Objection to Claim 12

On page 2 of the Office Action, in the first paragraph thereon, the Examiner objects to claim 12. The Examiner suggests that claim 12 requires dependency and further that the limitation of "1-300 ppm" may not be supported by the application.

In response, Applicants have amended claim 12 to depend upon claim 11. With respect to the limitation of 1-300 ppm of at least one transition metal in claim 12, such is specifically supported by page 3, line 22 of the application as filed. It appears that the Examiner may be confusing the amount of the transition metal in the aromatic dicarboxylic acid composition with the amount of the transition metal in the liquid crystalline polyester resin.

In view of the above, Applicants submit that the objection to claim 12 has been overcome. Accordingly, withdrawal of this objection is respectfully requested.

Anticipation Rejection over Satoshi et al.

Beginning with the last full paragraph on page 2 of the Office Action, the Examiner rejects claims 1-9 as being anticipated under 35 U.S.C. § 102(b) over Satoshi et al. Japanese Publication '331.

Applicants submit that the invention as recited in the amended claims is not anticipated by (or obvious over) Satoshi, and request that the Examiner reconsider and withdraw this rejection in view of the following remarks.

Initially, Applicants note that the translation provided by the Examiner is difficult to understand in certain locations, so Applicants submit herewith a verified partial translation of this reference.

Turning now to the substance of the rejection, Applicants note that claim 1 has been amended to incorporate the recitations of claim 10, which has not been included in this rejection, such that this rejection is overcome.

Further, Applicants submit that Satoshi discloses hollow polyester particles but not liquid crystalline polyester. That is, the resin of Satoshi does not exhibit an anisotropic melt phase.

The polyester particulate composition of Satoshi contains 20-2000 eq./ton of ionic groups. Examples of the ionic groups contain sulfonic group derived from sulfonic acid alkali metal salt; however, Satoshi is silent about how much alkali metal is contained in the composition. In [0008], Satoshi defines polyester as a resin prepared from polyvalent (or multivalent) carboxylic acids and polyvalent alcohols. It discloses trimellitic acid as an example of the polyvalent carboxylic acid. In the Example (0025-0027), polyester resin A4 contains

trimellitic acid (TMA), and the amount of TMA based on the total amount of the polyvalent carboxylic acid and polyvalent alcohol is 2%.

In contrast, the amount of the trimellitic acid in the polyester prepared with the aromatic dicarboxylic acid composition of the instant claims 1-9 is much lower than that contained in Satoshi.

Satoshi does not mention the aromatic dicarboxylic acid composition for preparing liquid crystalline polyesters, and the art will understand that it does not even suggest the composition comprising the specified amount of the components (b)-(c) of instant claim 1.

Further, Satoshi is silent about 6-formyl-2-naphthoic acid and 6-methoxycarbonyl-2-naphthoic acid in the newly added claims.

Thus, the instant claims are not anticipated by (or obvious over) Satoshi. Accordingly, withdrawal of this rejection is respectfully requested.

Anticipation Rejection over Park et al.

At the middle of page 3 of the Office Action, the Examiner rejects claims 1, 2, and 5-8 under 35 U.S.C. § 102(e) as being anticipated by Park et al. '921.

Applicants submit that the invention as recited in the amended claims is not anticipated by (or obvious over) Park, and request that the Examiner reconsider and withdraw this rejection in view of the following remarks.

Initially, Applicants note that claim 1 has been amended to incorporate the recitations of claims 3 and 10, which have not been included in this rejection, such that this rejection is

overcome.

Moreover, Applicants submit that the polyester film of Park is "non-crystalline" and, of course, does not exhibit an anisotropic melt phase. A non-crystalline polymer does not represent an anisotropic melt phase.

Further, Park discloses using trimellitic acid as a main component for preparation of polyester. The amount is much larger (see example 3) than that defined in the present invention.

Park does not mention the aromatic dicarboxylic acid composition for preparing liquid crystalline polyesters, and the art will understand that it does not even suggest the composition comprising the specified amount of the components (b)-(c) of instant claim 1.

In addition, Park is silent about 6-formyl-2-naphthoic acid and 6-methoxycarbonyl-2-naphthoic acid as recited in the newly added claims.

Thus, the instant claims are not anticipated by (or obvious over) Park. Accordingly, withdrawal of this rejection is respectfully requested.

Anticipation Rejection over Ohbe et al.

At the bottom of page 3 of the Office Action, claims 1, 2, 4, 5 and 9-13 are rejected under 35 U.S.C. § 102(e) as being anticipated by Ohbe et al.

Applicants submit that the invention as recited in the amended claims is not anticipated by (or obvious over) Park, and request that the Examiner reconsider and withdraw this rejection in view of the following remarks.

Initially, Applicants note that claim 1 has been amended to incorporate the recitations of

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. APPLN. NO. 09/917,209

claim 3, which has not been included in this rejection, such that this rejection is overcome.

Moreover, Applicants submit that Ohbe describes respective monomers corresponding to formulae (I)-(III) of the instant invention but does not mention trimellitic acid, 6-formyl-2-naphthoic acid and 6-methoxycarbonyl-2-naphthoic acid. Ohbe does not even disclose a trifunctional monomer like trimellitic acid. Applicants note Ohbe's formula (III) (see claim 6 and column 7-8) does not cover 6-formyl-2-naphthoic acid or 6-methoxycarbonyl-2-naphthoic acid. That is, the R₄s of Ohbe are the same groups.

Applicants submit that it has been a matter of common knowledge in the art that the purity of monomers used for the preparation of liquid crystalline polyesters (LCPs), such as dicarboxylic acids, should be extremely high. It has been believed by the art that any impurity in the monomer would deteriorate the resulting LCPs. In particular, an alkali metal, such as potassium, acts as a catalyst which affects the polymerization step. Accordingly, the art has devoted its energy to prevent impurities, especially alkali metals, from being mixed into the monomers for LCPs, and highly purified dicarboxylic monomers have been used. That is, the amount of impurities contained in the dicarboxylic acids used for preparing conventional LCPs (trimellitic acid, 6-formyl-2-naphthoic acid or 6-methoxycarbonyl-2-naphthoic acid) is less than 1 ppm (alkali metal compound).

As with Satoshi and Park, Ohbe neither teaches nor suggests admixing the specified

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. APPLN. NO. 09/917,209

withdrawal of this rejection is respectfully requested.

Obviousness Rejection over Satoshi in view of Ohbe

In the last full paragraph on page 4 of the Office Action, claims 10-13 are rejected under 35 U.S.C. § 103(a) as being obvious to one of ordinary skill in the art over Satoshi in view of Ohbe.

The Examiner's basic position appears to be that although Satoshi does not disclose a liquid crystalline polyester resin use, it would have been obvious from Ohbe that the compositions of Satoshi could be used as liquid crystalline polyester resins.

Applicants submit that the invention as recited in the amended claims is not obvious over Satoshi in view of Ohbe, and request that the Examiner reconsider and withdraw this rejection in view of the following remarks.

As discussed above, Satoshi does not disclose the composition of claims 1-9.

In the Satoshi Example (0025-0027), polyester resin A4 contains trimellitic acid (TMA), and the amount of TMA based on the total amount of the polyvalent carboxylic acid and polyvalent alcohol is 2%.

In contrast, the amount of the trimellitic acid in the polyester prepared with the aromatic dicarboxylic acid composition of the instant claims 1-9 is 0.1-100 mmol% or 0.0001-0.1 mol% based on the total monomer units constituting the polyester (claim 11), which is much lower than that disclosed in Satoshi.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. APPLN. NO. 09/917,209

metal to improve the dyeability of the polyester resin as a whole, Applicants could not find such disclosure. Applicants note that the object of Satoshi is to give polyester resin particles having holes inside thereof.

Thus, the instant claims are not obvious over Satoshi in view of Ohbe. Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373

CUSTOMER NUMBER

Bruce E. Kramer
Louis Gubinsky / Reg. No. 33,725
Louis Gubinsky
Registration No. 24,835

Date: December 15, 2003